

Remarks/Arguments

This is a complete response to the Office Action mailed 23 May 2006 in which claims 1-11 and 13 were rejected. Claim 12 was previously canceled. Claims 1-11 and 13 are pending. Reconsideration and further examination of the subject application are respectfully requested.

Claim Rejections - 35 USC § 102

Claims 1, 3-7, and 9-11 were rejected under 35 U.S.C. 102(b) as being anticipated by Scheps US 5530711 (hereinafter '711). Applicant respectfully traverses the rejection as improper because the limitation found in claim 1 that "said laser diode system operates in a non-steady-state mode" is not disclosed in '711.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference...The identical invention must be shown in as complete detail as is contained in the ...claim. MPEP 2131

Claim 1 reads as follows:

A laser, comprising:

a first optically reflective element;

a second optically reflective element opposed to and aligned with said first optically reflective element to define a laser cavity having an optical axis;

a laser dye gain element having a laser dye and which is interposed between said first and second optically reflective elements along said optical axis for transforming an optical pump signal into a resonant optical signal;

a laser diode system for generating and injecting said optical pump signal into said laser cavity along said optical axis, where said optical pump signal is a sequence of optical pulses having a pulse width of about $n\tau_f$, where τ_f represents a fluorescence lifetime of said laser dye, and $3 \leq n \leq 25$ so that said laser diode system operates in a non-steady-state mode.

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The Office Action maintains that column 19, lines 30-49 of '711 discloses a "laser diode system [that] operates in a non-steady-state mode." (Office Action page 3) Applicant respectfully disagrees. The section cited in the Office Action merely refers to a laser, which may operate in a pulsed mode or continuous wave mode. The Office Action also states, "diodes are operated in pulsed mode, which is non-steady-state." (Office Action page 3) Applicant respectfully submits that *pulsed* operation of a diode laser is not equivalent to *non-steady-state* operation of a diode laser as claimed in claim 1. (see Attachment 1) Only for the first few tens of nanoseconds after being turned on is a diode laser considered to be operating in non-steady-state mode. (Attachment 1; See also Specification page 5, line 9) After the first 50-100 nanoseconds a diode laser operates in a quasi-continuous wave mode. (Attachment 1; Specification page 5, line 8) A laser diode operating in non-steady-state mode "emits approximately 50 to 100 times the 'quasi-continuous' wave power." (Specification page 5, line 10) It would therefore be inaccurate to equate a general pulsed mode to the more specific non-steady-state mode. Nowhere does reference '711 disclose the limitation that the excitation laser diode operate in non-steady-state mode as defined in Applicant's specification and as understood by those skilled in the art.

The Office Action cites to col. 1, lines 56-59 of US patent 5307358 by Scheps (hereinafter '358) to support the position that "pulsed operation is considered non-steady-state." (Office Action page 3) The section cited states, "[G]enerally speaking, lasers...can be excited by either [steady-state] means, or by pulsed means." '358 col. 1, lines 54-56. However, the mere juxtaposition of the terms *pulsed* and *steady-state* does not lead to a conclusion that *pulsed* is equal to *non-steady-state*. As explained above, the term *non-steady-state*, is not equal to the broad term *pulsed*. The other two references cited in the Office Action, USPGPUB 2002/0071645 and US 5982789, also do not disclose an excitation laser diode operating in a non-steady-state mode, as defined by the specification. Applicant respectfully requests withdrawal of the 102 rejection.

Claim Rejections – USC § 103

Claims 2 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over '711. Applicant maintains that because claims 2 and 8 are dependent on claim 1 that is

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novel and unobvious the obviousness rejection should be withdrawn. Applicant respectfully requests withdrawal of the 103 rejection.

Conclusion

Based on the reasons above, Applicant respectfully requests reconsideration and that a Notice of Allowance be issued as to claims 1-11 and 13. The USPTO is hereby authorized to charge Deposit Account No. 50-0847 an amount of \$120.00 to pay the fees for an extension of time into the first month per 37 CFR 1.17(a). Please charge any deficit or credit any excess to Deposit Account No. 50-0847.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "J. Eric Anderson", written in a cursive style.

J. Eric Anderson

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